present amendment.

In the outstanding Office Action Claims 19, 31, 34, 36 and 38 were indicated as being anticipated by Breitenbach et al (U.S. Patent No. 4,785,138, hereinafter Breitenbach); Claims 20 and 21 were rejected as being unpatentable over Breitenbach in view of Elton (U.S. Patent No. 5,066,881, hereinafter Elton); Claims 19 and 22-25 were rejected as being obvious over Miyauchi et al. (U.S. Patent No. 3,684,821, hereinafter Miyauchi) in view of Hvizd, Jr. et al (U.S. Patent No. 4,3561,723, hereinafter Hvizd); Claim 26 was rejected as being unpatentable over Breitenbach in view of Silver et al (U.S. Patent No. 4,384,944, hereinafter Silver); Claim 27 was rejected as being unpatentable over Breitenbach in view of Silver and Cloetens et al; Claim 28 was rejected as being unpatentable over Miyauchi in view of Hvizd, and Yamanouchi; Claim 29 was rejected as being unpatentable over Breitenbach in view of Silver and Yamanouchi; Claims 30 and 32 were rejected as being unpatentable over Miyauchi in view of Hvizd in view of Olsson et al (U.S. Patent No. 4,109,098, hereinafter Olsson); Claim 35 was rejected as being unpatentable over Breitenbach in view of Simmons; and Claim 37 was rejected as being unpatentable over Breitenbach.

The outstanding Office Action has dismissed virtually all of the arguments in the amendment filed January 20, 2000 as being moot in view of the new ground of rejection. However, the substance of the rejections herein is, for the most part, based on the same analysis presented in the Office Action of October 28, 1999. Thus, the undersigned objects to the characterization of the Applicants' previous arguments as being moot since they are equally applicable at this time especially the compelling explanation as to why the claimed invention provides unexpectedly good results over the prior art. Consequently, all of the arguments presented in the amendment filed January 20, 2000 are hereby incorporated herein

by reference.

The undersigned also objects to the analysis presented in the Office Action that suggests there is something improper about including the broader range of 10-500 ohm*cm in an independent claim and then a narrower range of 50-100 ohm*cm in another claim. The Office Action suggests that there is some inconsistency here, but there is not. The range of 50-100 ohm*cm is within the range of 10-500 ohm*cm. Also, as previously explained in great detail (although perhaps not reviewed since the arguments were dismissed as moot), if the resistivity is too high there is a risk of partial discharge, but if the resistivity is too low, there is too much induced current. Accordingly, it should be clear from this discussion that the narrower range provides greater immunity from partial discharge and from heat build-up due to induced currents. Thus, there is nothing inconsistent about a narrower range in a dependent claim, while having a broader range that is bounded by values that the Applicants found have significant real-world effects for high-voltage machine windings.

Claim 19, 31, 34, 36 and 38 have been rejected as being anticipated by Breitenbach. Claims 19, and 36 have been amended to clarify that the outer semiconductor layer is in contact with the insulating layer. Claim 38 is drafted in means plus function format, and thus, as shown in Figure 1, has the outer semiconductor layer in contact with the insulating layer. Breitenbach, as described in the Amendment filed January 20, 2000, Breitenbach includes an intermediate layer 9 between layers 10 and 8, and thus does not anticipate Claims 19, 31, 34, 36 and 38, as amended.

With regard to what Breitenbach actually teaches about the resistivity of the outer layer, the undersigned respectfully withdraws the analysis previously presented in Amendment filed September 13, 1999, since it is believed the undersigned did not appreciate

the incomplete information in Breitenbach. The undersigned has since attempted to ascertain precisely what Breitenbach describes with regard to conductivity and resistivity and concludes that the technical errors and lack of information disclosed in Breitenbach prevents Breitenbach from providing a teaching with regard to conductivity or resistivity of the outer layer. The undersigned's reasoning will be appreciated from the discussion below, beginning with column 5, lines 7-13 of Breitenbach:

> The longitudinal conductivity of the outer conductive layer **9** is greater than that of the sheathing **10**. With proper dimensioning the conductance for the outer conductive layer **9** is, for example, 1 to 10 mS×m and for the sheathing **10** it is 0.01 to 0.05 mS×m (wherein the term mS represents milliSiemens which are millimhos per meter, and m is the length of the cable in meters).

Analysis of Statements Made in Breitenbach

*1. The longitudinal conductivity of the outer conductive layer **9** is greater than that of the sheathing **10**.*

The term "longitudinal conductivity" is most commonly used in the context of describing highly specialized materials exhibiting different conductivities along different axes. These materials generally require special manufacturing processes that are not described by Breitenbach and generally inappropriate for the EPDM and polymers described in Breitenbach, since these materials are not believed to exhibit orientation-sensitive conductivity. It is therefore believed that this term has been improperly used in describing the properties of the materials used in the Breitenbach cable.

*2. With proper dimensioning the conductance for the outer conductive layer **9** is, for example, 1 to 10 mS×m and for the sheathing **10** it is 0.01 to 0.05 mS×m*

The "conductance" of a layer has dimensional dependencies, therefore, it seems

proper to discuss the conductance with respect to the "proper dimensioning." However, the proper units for conductance are mhos (℧) or siemens (S), not siemens-meters (or millisiemens-meters) (mS×m) as is used in Breitenbach.

3. (wherein the term mS represents milliSiemens which are millimhos per meter, and m is the length of the cable in meters).

Here it is explained that milliSiemens (mS) are millimhos per meter. This is incorrect.[1] Siemens (S) are synonymous with mhos (℧), and therefore, millisiemens (mS) are synonymous with millimhos (m℧). It is also incorrect to imply that multiplying the conductance by the length of the cable that the result is a conductance for the cable. This is non-intuitive since the longer the cable, the lower the conductance of the cable given the definition of conductance:

$$G=\sigma\frac{A}{l}$$

As can be seen from this discussion it is not at all clear what Breitenbach teaches, and thus it is not proper to conclude that Breitenbach teaches the claimed range of 10-500 ohm*cm.

Claims 20 and 21 stand rejected as being unpatentable over Breitenbach in view of Elton. However, as discussed above, it is respectfully submitted that Breitenbach does not teach or suggest the features of independent Claim 19. Elton does not teach the claimed range, and thus no matter how the references are combined, the combination does not provide a *prima facie* case of obviousness.

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[1]This statement was added in a Preliminary Amendment in the file history of Breitenbach.

Claims 19 and 22-25 stand rejected as being unpatentable over Miyauchi in view of Hvizd. Miyauchi is directed to an insulated wire that the outstanding Office Action admits does not include an outer most layer having a resistivity of 10 to 500 ohm*cm or of 50-100 ohm*cm. The outstanding Office Action however asserts that Hvizd provided this teaching, but Hvizd merely refers to a high voltage cable that includes a semiconductive material may have resistivities in the range of 1 to 1,000,000 ohm*cm. The Applicants respectfully refer to the analysis provided in the Amendment filed January 20, 2000, which explains why it was the Applicants who identified the resistivity as being the result effective variable that allowed the Applicants to determine that the claimed range provides unexpectedly good results when used in a high-voltage machine. It is respectfully submitted that neither Hvizd nor Miyauchi teach or suggest this feature.

Claim 26 is rejected as being unpatentable over Breitenbach in view of Silver. As discussed above, Breitenbach fails to teach or suggest the claimed range of independent Claim 19, as amended, and therefore, also fails to teach or suggest all the features of Claim 26. Silver also fails to teach the claimed range. Consequently, it is respectfully submitted that Claim 26 patentably defines over the asserted prior art.

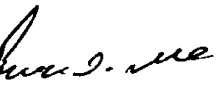
Claims 27, 28, 29, 30, 32, 33, and 35 all are based on rejections with regard to either Breitenbach or Miyauchi (with Hvizd) as discussed above. However, as discussed above, it is respectfully submitted that the features relied on in the outstanding Office Action for rejecting these claims are absent from these references, and therefore, no matter how these references are combined with secondary references that are presented to describe a secondary feature of a dependent claim, it is respectfully submitted that the rejection does not present a *prima facie* case of obviousness.

Claim 37 is based on a rejection of Breitenbach, based on the unsupported observation that it would have been obvious to insulate the wires in Breitenbach in a rotating electric machine since the insulated wires are suitable to be used in a high voltage application and using an insulated wire in a rotating electric machine is well known in the art. In any event, it is respectfully submitted that Breitenbach fails to teach or suggest the particular claimed values in Claim 37, and therefore fails to present a *prima facie* of obviousness.

Consequently, in view of the present amendment and in light of the above remarks, it is respectfully submitted that the invention defined by Claims 19-38, as amended, is patentably distinguishing over the prior art. The application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



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